

EXHIBIT A

BISFA

**THE INTERNATIONAL BUREAU
FOR THE STANDARDISATION
OF MAN-MADE FIBRES**

Terminology of man-made fibres

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Mr. P. LATZKE, of Acordis, Germany (Chairman of the Terminology Working Group)

Dr. A. KRIEGER, Secretary General of BISFA

Mr. B. ERGUN, of DuPontSA, Turkey

Mr. A. GOMES DA SILVA, of Fisipe, Portugal

Dr. O. JOHN, of DuPont de Nemours International, Switzerland

Mr. Ph. LAPPERSONNE, of Rhodia Performance Fibres, France

Mrs. U. PLIETE, of Bayer Faser, Germany

Dr. F. PREZZAVENTO, of Assofibre, Italy

Mr. Ch. RAMSAUER, of Lenzing, Austria

Mrs. J. ŠKRHOVÁ, of Spolana, Czech Republic

Mr. B. TABOR, of Acordis, the Netherlands

Mrs. A. WHINERAY, of Acordis, UK

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BISFA
Avenue E. Van Nieuwenhuyse, 4
B - 1160 Brussels
Belgium

Filament

A fibre of very great length, considered as continuous.

See also: Steel Filament.

Filament yarn

A yarn composed of one or more filaments.

Note : Filament yarns can have the following morphologies: flat, interlaced, twisted, twistless, textured or combinations of these.

Finish

A chemical composition applied to yarns in order to facilitate processing.

Flame resistance

The property of a material whereby flaming combustion is slowed, terminated or prevented.

Note : Flame resistance can be an inherent property of the basic material or it may be imparted by specific treatment. The degree of flame resistance exhibited by a material during testing may vary with the test conditions.

Flare

The spreading of the filament ends or the strand ends at the cut end of a cord.

Flock

Very short fibres, intentionally produced for other purposes than spinning (e.g.: flocking).

Fly

See : Dust

Folded yarn (Synonym: Plied yarn)

A yarn in which two or more single yarns are combined by a single twisting operation.

Folding in layers

The process of placing a sliver, top or tow into successive layers in which each layer is made of regular parallel folds.

Force

See : SI units Chapter

- **Force at break**

See: Breaking force

Sliver

An indefinitely long assembly of staple fibres, substantially parallel, without twist, capable of being drafted in preparation for spinning.

See : Top, Roving.

Specimen

See : Test specimen.

Spun yarn

A yarn made of staple fibres usually bonded together by twist.

Square cut staple fibres

See : Staple fibre.

Stabilised false twist yarn

A yarn, having a low crimp elongation and a low crimp contraction, obtained by false twisting, followed by heat-setting in a state where it is only partly relaxed from the straightened condition.

Standard atmosphere

See : Atmospheres

Staple fibre

A textile fibre of limited but spinnable length. For man-made fibres the three principal categories are:

- **Square cut staple fibres:**

Staple fibres obtained by cutting into bundles of essentially constant length; they are specified by a single nominal length.

- **Stretch-broken fibres:**

Staple fibres obtained by stretch-breaking a tow in a tow-to top process to a range of lengths up to a defined upper limit.

- **Variable length (or bias cut) staple fibres:**

Staple fibres obtained by cutting in such a way as to deliberately introduce several lengths. Such fibres are specified by two finite nominal lengths corresponding to the limits of the cut length.

Steel cord

A formed structure composed of two or more steel filaments when used as an end product or combination of strands or filaments and strands.

Steel filament

A steel fibre used as an individual element in a strand or cord.

See : Filament.

Stiffness

Resistance to bending, characterised by the bending moment required to produce a bent configuration under specified conditions.

Straightened length

The length of a test specimen under a specified tension sufficient to remove crimp.

Straightness

The ability of a steel cord to lie flat between two straight parallel lines which are a prescribed distance apart.

Strain

The ratio of the extension of a test specimen to its initial length.

See : Elongation.

Strand

A general expression for linear textile assemblies, particularly yarns which are components of ropes and cordage.

Note for steel: A group of filaments twisted together to form a unit product to be processed further. A strand may be considered as a cord if it is the end product for tyre reinforcement or if it may be an element in a more complex structure.

Strength at break

See : Breaking strength.

Stress

The resistance to deformation developed within a material subjected to an external force, expressed as force per cross-sectional area.

Note : Sometimes wrongly used in textile testing for tenacity, which is force per linear density.

Stretch-broken fibres

See : Staple fibre.

Stufferbox crimped yarn

Textured filament yarn obtained by overfeeding yarn and compressing it into a chamber, which may be heated.

Type of lay

See : Lay

Tyre cord fabric

A structure used in tyre manufacture, comprising a sheet of warp cords or yarns bound together by widely spaced weft yarns which are usually of cotton and have a distinctly lower linear density than the warp cords or yarns.

Variable length (or bias cut staple fibres)

See : Staple fibre

Weight

Deprecated term still commonly but improperly used for mass.

See : Mass.

Wet modulus

See : Modulus, Wet.

Wire

See : Steel Filament.

Work to break

The total area under the force extension curve up to the breaking force.

Wrap

A filament wound helically around a steel cord.

Yarn

A textile product of substantial length and relatively small cross section, composed of fibre(s) with or without twist.

This general term covers all the specific types of yarns, e.g. single yarn, multiple wound yarn, filament yarn, spun yarn.

Yarn length

The length of yarn wound on a support measured under defined conditions.